(FILE 'HOME' ENTERED AT 11:56:19 ON 12 NOV 2004)

FILE 'MEDLINE, CAPLUS, BIOSIS, AGRICOLA' ENTERED AT 12:14:40 ON 12 NOV 2004

L1 21009 S GLUCOSE (2N) OXIDASE
L2 183 S L1 AND (PEROXIDE (10N) (INACTIV? OR DEGRAD? OR STAB?))
L3 26 S L2 AND (SENSOR OR MUTA?)
L4 21 DUP REM L3 (5 DUPLICATES REMOVED)

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L1	11796	glucose near2 oxidase	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:44	
2	BRS	L2	2879	peroxide near10 (resistance or resistant)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:44	
3	BRS	L3	67	l1 and l2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:47	
4	BRS	L4	4422	l1 and peroxide	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:47	

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
5	BRS	L5	2223	l4 and stability	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:47	
6	BRS	L6	937	l5 and (degrade or degradation)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:48	
7	BRS	L7	14	l1 near10 (stability or degrade or degradation) near10 (peroxide)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:51	
8	BRS	L8	1519	l1 near10 peroxide	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:52	

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
9	BRS	L9	3	l8 near10 (degrade)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:52	
10	BRS	L10	10	l8 near10 (sensitive)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:54	
11	BRS	L11	290	l8 and (degradation)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:54	
12	BRS	L12	1	l8 near10 (degradation)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 11:55	

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
13	BRS	L13	10	l8 near10 (stability)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 12:06	
14	BRS	L14	19	l1 near10 (mutant)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 12:06	
15	BRS	L15	12	l14 and (peroxide or h2o2)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/11/12 12:06	

L4 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:860319 CAPLUS
DN 134:189999
TI In vitro and in vivo degradation of **glucose oxidase** enzyme used for an implantable glucose biosensor
AU Valdes, T. I.; Moussy, F.
CS Center for Biomaterials & Surgical Research Center, University of Connecticut Health Center, Farmington, CT, USA
SO Diabetes Technology & Therapeutics (2000), 2(3), 367-376
CODEN: DTTHFH; ISSN: 1520-9156
PB Mary Ann Liebert, Inc.
DT Journal
LA English
AB The degradation of the **glucose oxidase** (GOD) enzyme, commonly used in the construction of glucose **sensors** has been of concern for scientists for decades. Many researchers have found that GOD deactivates over time, mostly due to H2O2 oxidation This decay can lead to the eventual failure of the **sensor**. However, these findings are controversial, because other researchers did not find this degradation The goal of this study was twofold. The first goal was to evaluate the in vitro and in vivo stability of two com. available GOD enzymes and the second goal was to evaluate Nafion as a protective coating of GOD. Crosslinked GOD samples were sandwiched between two 10-μm pore polycarbonate membranes (Nafion coated or uncoated) and placed in custom designed Lexan chambers. Chambers were then exposed to a total of five different environments: Dulbecco's Modified Eagle Medium (DMEM) or phosphate buffered saline (PBS) with and without a 5.6-mM glucose concentration, as well as the s.c. in vivo environment of 12 rats. After a period of up to 4 wk, chambers were retrieved, opened, and tested for enzyme activity using a three-electrode system. Enzyme activity showed only a slight decrease when exposed to DMEM and PBS without glucose. A more dramatic decrease in activity was observed in enzymes exposed to PBS and DMEM with 5.6 mM glucose. The in vivo environment also caused a significant decrease in enzyme activity, but the decrease was lower than for the in vitro environment with glucose conditions. The presence of glucose in vitro and in vivo led to the production of H2O2, suggesting this to be the main agent responsible for enzyme degradation The use of a Nafion coating did not provide any addnl. protection.